

Case Docket No. 65,748-449

Date: July 13, 1999

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Michael Reasoner
Reissue Serial No.: 09/115,764
Reissue Filing Date: July 15, 1998
Original Patent No.: 5,653,148
Original Issue Date: August 5, 1997
Original Filing Date: December 15, 1995
For: CONDUIT SHORTENING ADJUSTMENT ASSEMBLY

Examiner: Luong, V.

Group Art Unit: 3682

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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR 1.97(c)(2) and 1.98

Assistant Commissioner for Patents
Box DD
Washington, D.C. 20231

Sir:

Pursuant to Rule 97 and in compliance with Rule 56, Applicant hereby makes of record the items listed on the attached Form PTO-1449. Copies of the listed items are enclosed.

None of the prior art patents disclose the inventive concepts claimed in the subject application.

Applicant also makes of record the following summary of the design process and commercial activity with regards to the invention set forth in the above referenced reissue application.

A. Introduction

Teleflex and Chrysler had previously worked together on a shift cable program referred to as the "B-Van." The B-Van shift cable did not include a mid-conduit adjust. In 1994, Chrysler also wanted Teleflex to design a new shift cable for the "N-Truck." The N-Truck was configured differently than the B-Van. Teleflex began to design a new shift cable with a mid-conduit adjust for the N-Truck application.

B. Summary

The mid-conduit shortening adjustment invention for a shift cable, disclosed in the subject patent application, was in a design process from March of 1994 through 1998. The invention as
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shown in the subject patent application was not complete and ready for patenting until a collar (designated as number 26 in the original '148 patent) had been designed. The collar was designed, tested, and validated after the critical date of December 14, 1994. Chrysler had to have physical prototypes of the mid-conduit adjust shift cable for testing and packaging purposes. Prototypes of the mid-conduit adjust shift cable without the collar were sold to Chrysler prior to the critical date, however, these prototypes were needed by Chrysler for testing and design validation purposes. As testing took place, problems were discovered with the assembly of the shift cable. The collar was designed to overcome these problems. The prototypes sold to Chrysler prior to the critical date did not include the collar design. The invention was not commercially offered for sale to Chrysler until March 14, 1995 when Teleflex sent a letter to Chrysler outlining the production costs for the shift cable assembly and the production tooling for the N-Truck program. Even as late as May 11, 1995 Chrysler had not yet committed themselves to the subject mid-conduit shortening design. Because the production tooling and per piece cable costs (as outlined in the March 14, 1995 letter) were higher than Chrysler wanted, Chrysler considered using the cable without mid-conduit shortening that had been previously used in the Teleflex-Chrysler B-Van program. Thus, there is no statutory bar under 35 U.S.C. 102(b).

C. Production Parts

Teleflex sent a letter to Chrysler, dated March 14, 1995, quoting production cost of the shift cable at \$12.892 each. This is well after the critical date of December 15, 1994 of the original patent. The letter discussed packaging costs and also included quotes for production tooling for eight (8) parts. See Exhibit 1. A follow-up letter to Chrysler, dated October 13, 1995, quotes price changes for the shift cable. See Exhibit 2.

Chrysler has several build milestones that are achieved as a program progresses. These milestones range from a Program Vehicle or F1 Build milestone, which involves validating component objectives, to a V1 Build Launch, which involves the manufacture of production parts. See Exhibit 3. Each of the various milestones will be discussed in detail below.

The V1 Build Launch involves the manufacture of production products to program goals at planned volumes, and management approval for distribution and sale. Part supplier and assembly plant facilities will be complete and ready for full volume production. The Chrysler V1 Launch date was July 15, 1996. See Exhibit 4.

Prior to the V1 Build Launch is the Pre-Volume Production (PVP) Vehicles milestone. The PVP vehicles signal the start of pre-volume production body-in-white framing and assembly of

complete saleable production vehicles. They are built by Manufacturing in the designated assembly plant to verify the production process and plant readiness. The PVP Pilot date was June 3, 1996. See Exhibit 4.

Prior to the PVP Vehicles milestone is the C1 Pilot Vehicles milestone. The C1 Pilot Vehicles are complete running vehicles built by Manufacturing at the assembly plants with parts produced at production rates to verify Corporate and supplier production tooling, equipment, and processes, and to confirm successful resolution of any production tooled product design changes incorporated since the PO build. The C1 Pilot Build date was originally February 12, 1996 and was changed to March 18, 1996. See Exhibits 4 and 5.

Prior to the C1 Pilot Vehicles milestone is the PO Pilot Build Vehicles milestone. The PO Pilot Vehicles are complete running vehicles with parts provided from hard tooling. They are built by Manufacturing to verify that the design is capable of being manufactured and assembled, while meeting all of the program's goals and constraints. Pilot Vehicles are used to confirm production design, validate parts, prove-out components and assembly processes, and provide earlier identification and resolution of production function and fit issues prior to C1 pilot. The PO Pilot Build date was November 13, 1995. See Exhibit 4.

Prior to the C1 Pilot Vehicles milestone is the Program Vehicle or F1 Build milestone. The F1 Build includes validation that the components, systems, and vehicles built to the manufacturing process meet the objectives, and that the program is on time with limited risk. The milestone is the date of the first Program Vehicle build. Program Vehicles are built to production design intent, to evaluate manufacturing and assembly production process intent. This provides production intent vehicles for Engineering design verification. All open issues are documented in a problem tracking system common with pilot vehicles. The F1 prototype parts were due September 1, 1994. See Exhibit 4.

D. Design Process

The design process for the new mid-conduit adjust shift cable for the N-Truck was initiated in March of 1994.

1. Meeting Minutes

In a meeting between Chrysler and Teleflex on March 9, 1994 it was determined that a new shift cable design was necessary for the N-Truck program. See Exhibit 6. As discussed above, the previous Teleflex-Chrysler B-Van program had a one-piece cable, a one-piece conduit, and an adjuster

at one of the terminal ends. The new Teleflex shift cable design for the "N" Truck evolved into a one-piece cable, a two-piece conduit, and an adjuster in the middle. This unique design was set forth in the subject patent application, assigned to Teleflex, originally filed on December 15, 1995 and issued as U.S. Patent No. 5,653,148.

In a meeting between Teleflex and Chrysler for the N-Truck program on March 16, 1994 desirable design features of the mid-conduit adjust were discussed. See Exhibit 7. A hand sketch of the initial concept was dated 3/16/94. See Exhibit 8. At this point the design was purely conceptual and would require significant modifications and testing before becoming the design shown in the subject patent application.

The meeting minutes for the Teleflex and Chrysler meeting for N-Truck on March 28, 1994 reference on-going design modifications for the shift cable. See Exhibit 9. A handwritten note on the March 28, 1994 minutes states, "Do PR ASAP." This meant that Teleflex had to do a pricing request as soon as possible. This pricing request was to determine what Teleflex's cost for the shift cable would be at this point in the design.

The Teleflex and Chrysler meeting minutes for April 11, 1994 discuss design issues for the mid-conduit adjust shift cable. See Exhibit 10.

The Teleflex and Chrysler meeting minutes for April 27, 1994 discuss procurement and costs of F1 parts for July of 1994. See Exhibit 11.

The Teleflex and Chrysler meeting minutes for May 12, 1994 state that Chrysler was to provide Teleflex with orientation requirements for the adjuster. See Exhibit 12. A handwritten note on the minutes acknowledges the receipt of the "97 AN ATX Product Assurance Plan." See Exhibit 12. This Assurance Plan was a Chrysler document that outlined the various build dates for the N-Truck program. See Exhibit 4. The May 12, 1994 minutes include a handwritten note that states, "Use 6 PCS. out of 10 pc order (pre-F1) for testing." The minutes also state that "Chrysler needs costs of F1 prototype inquiries, mules, production tooling and piece price totals. Need production costs ASAP, F1 before July 1, 1994." A subsequent handwritten note states that this is due by end of July. At this point the cable design is still in process and does not include a key feature that was determined to be critical in the assembly process. This will be discussed in greater detail below.

The Teleflex and Chrysler meeting minutes for June 8, 1994 discuss on-going design modifications. See Exhibit 13. The minutes refer to the delivery of IGEST tape to Chrysler. The minutes also state the "Release date for F1 parts to be July 1, 1994, hard parts due September 1, 1994." "6 cables returned to Teleflex for testing. Testing to be complete on June 28, 1995 (sic, should be 1994)." Thus, at this point testing was still on-going and design modifications were still

in progress.

The Teleflex and Chrysler meeting minutes for June 22, 1994 discuss on-going design modifications. See Exhibit 14. The Teleflex and Chrysler meeting minutes for July 11, 1994 discuss on-going design modifications. See Exhibit 15.

JTE Truck Automatic Transmission Group and Teleflex Shift Cable Issues Log dated November 1, 1994, outlines several problems and design issues that were being investigated by Teleflex and discusses testing that had yet to be completed. See Exhibit 16. Item 10 references problems with adjuster spring load.

JTE Truck Automatic Transmission Group and Teleflex Shift Cable Issues Log dated December 12, 1994, outlines several problems and design issues that were being investigated by Teleflex and testing that had yet to be completed. See Exhibit 17.

The Teleflex meeting minutes for 3/20/95 also discuss open design issues. See Exhibit 18.

2. Assembly Drawings For "N" Truck Shift Cable

The shift cable assembly drawing 974JxS7005 for the mid-conduit shortening cable assembly underwent several design modifications. The different revisions levels are discussed in detail below.

Assembly Drawing #1 for 974JxS7005 (See Exhibit 19.)

Revision Level “-“

Revision Record: 6/21/94 Released to prototype

At this point the Teleflex design was conceptual and testing and significant design modifications were still needed. A key design component for the shift cable, the collar (26 in the '148 patent) is not shown in the 974JxS7005 Revision Level “-“ drawing because it had not been conceived of yet. Ultimately, the collar was important because it solved two problems. One problem was an assembly problem and the other was a functional problem. The collar provided stability on center line to properly align the locking teeth, i.e. it maintained a parallel relationship for the teeth. Without the collar, the locking teeth could become misaligned during assembly. Misalignment would result in an increased assembly effort because an assembler would try to force the locking member onto the male member. Also, forcing the locking member onto the male member under misalignment conditions could result in stripped teeth. The stripped teeth would affect the locking and adjustment performance of the shift cable design. The collar design eliminated both of the assembly and functional problems.

Assembly Drawing #2 for 974JxS7005 (See Exhibit 20.)

Revision Level "A"

Revision Record: 8/12/94 Several handwritten revisions.

The "A" designates the next revision after the release to prototype. The collar has still not yet been designed.

Assembly Drawing #3 for 974J-S7005 (Note the "x" in the drawing number has been changed to a "-") (See Exhibit 21.)

Revision Level "REL"

Revision Record: 4/19/95 Released to production with changes . . . Added 974JxS7703 (the collar).

The drawing includes the collar. Chrysler initially had a requirement that the outer conduit adjuster be serviceable. Without the collar, serviceability of the conduit adjuster could be compromised because the locking teeth could be misaligned. If the lock had to be forced in due to teeth misalignment, some of the teeth could be stripped resulting in an improper function of the adjustment and locking features. The conception and testing of the collar will be discussed in detail below. Due to the production release date of April 19, 1995, prototype parts with the collar could not have been sent to Chrysler prior to April of 1995.

Assembly Drawing #4 for 974J-S7005 (See Exhibit 22.)

Revision Level "1"

Revision Record: 6/13/95 Several revisions

This revision level did not include any major functional revisions.

Assembly Drawing #5 for 974J-S7005 (See Exhibit 23.)

Revision Level "2"

Revision Record: 7/25/95 Redrawn with changes

This revision level did not include any major functional revisions.

Assembly Drawing #6 for 974J-S7005 (See Exhibit 24.)

Revision Level "3"

Revision Record: 9/15/95 several revisions

Teleflex added a tab on the slider for improved functionality.

Assembly Drawing #7 for 974J-S7005 (See Exhibit 25.)

Revision Level "4"

Revision Record: 10/11/95 Several revisions

This revision level did not include any major functional revisions

Teleflex shift cable assembly, Teleflex drawing no. 974J-S7010 (which replaced -7005), was released for production 1/9/96 with collar. See Exhibit 26.

3. Collar

As discussed above, the collar was needed for proper assembly of the cable. A design request for a collar prototype was set forth in Shop Work Order No. 9151. See Exhibit 27. The request was initiated on August 29, 1994 and was completed on August 26, 1994. The request included a hand sketch of a collar with dimensions. At this stage, the collar was one concept that was being investigated to solve assembly problems with the cables. The collar pieces were being made only for Teleflex testing purposes. The initial collar design did not meet design requirements and needed to be modified. The design request for a new collar was detailed on a Shop Work Order (No. 8818) that was initiated November 22, 1994 with a requested completion date of December 16, 1994. See Exhibit 28. The new collar included a keyway and modified taper. The collar pieces were being made only for Teleflex testing purposes and were not sent to Chrysler.

The assembly drawing for the shift cable, Teleflex drawing 974JxS7005, did not include a collar as of August 12, 1994. See Exhibit 20. This drawing was obsoleted on April 5, 1995. A Teleflex drawing labeled 974J-S7005 includes the collar and has a release date of April 19, 1995 for release to production. See Exhibit 21.

The collar component drawing, Teleflex drawing no. 974J-S7703, was released to prototype on February 17, 1995 and was released to production on May 24, 1996. See Exhibit 29.

A Product Deviation Request dated December 26, 1996 requests the use of a modified collar with a 45 degree angle. See Exhibit 30. Even at this point design modifications were still being made to the shift cable assembly.

4. Testing

Teleflex tested 20 samples of 974J-S7005 for durability. See Exhibit 31. The test objective was to determine if the shifter conformed to Teleflex specification drawing 974J-S7005. The test report is dated January 15, 1996. All performance requirements were met except for the abusive load

test. *All 20 samples failed* during the high temperature test. Thus, the cable assembly still had not met all design requirements.

Teleflex tested 22 samples of 974J-S7005 for durability. See Exhibit 32. The test objective was to determine if the shifter conformed to Teleflex specification drawing 974J-S7005. The test report is dated February 29, 1996. Only 4 samples out of 8 passed the lock mechanism during the high temperature test. The abusive load test was suspended while the test engineer waited for a corrected lock mechanism.

Teleflex tested 30 samples for durability. See Exhibit 33. The test objective was to determine if the shifter conformed to Teleflex specification drawing 974J-S7005. The test report is dated March 15, 1996. Twenty-three out for thirty passed the lock mechanism during the high temperature test. The other *seven failed*.

Teleflex tested 10 samples of the shifter assembly to determine if the shifter could withstand abusive loading without any failure of components. See Exhibit 34. The test report is dated October 2, 1996. *Six samples failed*.

Teleflex tested 6 samples of the shifter assembly to determine if the shifter could withstand abusive loading without any failure of components. See Exhibit 35. The test report is dated October 15, 1996. *All six samples failed*.

As is evidenced by the various test reports discussed above, the subject shift cable assembly required testing and design modification to meet design specifications as late as October of 1996.

E. Sale of Prototypes - Order Schedules and Correspondence

Order Schedule (24132) for 10 prototypes of 954J-S7002mod (B-Van modified) was issued on April 15, 1994. See Exhibit 36. An assembly drawing of the B-Van shift cable is shown in Exhibit 37. The B-Van cables were completed on June 3, 1994 and were shipped on June 28, 1994. Chrysler was billed on July 13, 1994 for \$1000. A letter to Chrysler, dated May 25, 1994 confirms that 10 prototype pieces at \$100 each are to be delivered no later than June 8, 1994. See Exhibit 38. Four cables were to be delivered on June 8, 1994 and the other six were to be lash tested by Teleflex then delivered to Chrysler. These prototypes were a modified version of the B-Van cable assembly and were not the cable assembly shown in the subject patent application.

Order Schedule (50035) for 20 "97 N Truck – F1 ATX cables" was handwritten and dated July 13, 1994. See Exhibit 39. It was accompanied by a handwritten order schedule (50027) dated July 13, 1994 for "97 N Truck tooling charges prototypes F1 . . ." See Exhibit 39. Order Schedule No. 50027 CHR to Chrysler was typed and dated July 15, 1994 for "97 "N" Truck tooling charges –

prototypes F1" for the following parts due September 1, 1994 (see Exhibit 40.):

Slider end fitting	974J-S7202
Iso. end fitting	974J-S7203
Body end fitting	974J-S7204
Grommet Plate	974J-S7100
Grommet Plate Seal	NPN
Shaft	974J-S7607
Shaft	921R-S7601

Order Schedule (50035 CHR) was typed and dated July 15, 1994 for 20 "97 N Truck - (F1) ATX Cables." "TBD" is in the price column, i.e., "To Be Determined". See Exhibit 41.

Order Schedule (50035B) for 30 prototypes of 974J-S7005 was issued on August 8, 1994. Parts were completed August 31, 1994. See Exhibit 36. Chrysler was billed on September 20, 1994 for \$4500. A letter to Chrysler dated August 8, 1994 outlines cost and timing to supply 30 pieces of the subject cable for F-1 Vehicle build requirements. See Exhibit 42. Price was \$150 each and tooling costs for slider, end fitting, and body were \$8000 each. These cables were for the F1 Chrysler build and did not include the shift cable design with the collar. For the F1 build, Chrysler required physical prototype cable assemblies for design validation and packaging purposes.

Order Schedule (50161) for 20 Level II N-Truck ATX shift cables is dated December 4, 1994 for \$150.00 each. See Exhibit 43. These cables also did not include the collar.

Order Schedule (50665) for 20 production "N" Truck cables is dated August 30, 1996. See Exhibit 44.

Order Schedule (51068 CHR) is dated October 20, 1997 for 55 ATX cables. See Exhibit 45.

Letter to Chrysler dated December 12, 1994 is for 300 prototypes of a new spring at total cost of \$425. See Exhibit 46.

Teleflex sent a letter to Chrysler dated March 14, 1995 quoting production cost of cable at \$12.892 each. See Exhibit 1. Packaging costs were \$.14 for expendable and \$.08 for returnables. Also included were quotes for production tooling for 8 parts, one of which was the collar.

Letter to Chrysler dated October 13, 1995 quoting price changes for the cable. See Exhibit 2. There are several letters after this date also discussing price changes.

F. Remarks

Based upon the above evidence, the invention was not offered for sale more than one year before the filing date. The on-sale bar applies only if two conditions are satisfied: first, the product

must be the subject of a commercial, as opposed to experimental, offer for sale. Second, the invention must be ready for patenting. *Pfaff v. Wells Electronics*, 119 S. Ct. 304; 142 L. Ed. 261 (1998).

Here there were no commercial offers for sale until March 14, 1995 when Teleflex sent a letter to Chrysler outlining the production costs for the shift cable assembly and the production tooling for the N-Truck program. As established, Chrysler needed physical prototypes for testing. Prototypes were tested and failed well past the critical date. Changes were made after the critical date as a result of testing, including the addition of the collar. The March 14, 1995 letter was included commercial production pricing of \$12.892 each, rather than the prototype pricing of \$150 each.

Second, the invention was not yet ready for patenting until the collar was developed and tested. The development of the collar made the design work for the intended purpose and was the inventor's best mode of practicing the invention.

G. Fees

Please charge Deposit Account No. 08-2789 for the \$240 fee required under 37 CFR 1.17(p). Should there be any additional fees associated with this document, please charge it to Deposit Account No. 08-2789. A duplicate of this paper is enclosed.

Respectfully submitted,



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